



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,967	05/29/2001	Ke Shen	CISCP217	9755
22434	7590	11/18/2004	EXAMINER	
BEYER WEAVER & THOMAS LLP			DIEP, NHON THANH	
P.O. BOX 778			ART UNIT	
BERKELEY, CA 94704-0778			PAPER NUMBER	
			2613	

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/867,967	<b>Applicant(s)</b> SHEN ET AL.	
	<b>Examiner</b> Nhon T Diep	<b>Art Unit</b> 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 and 65-74 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-24, 26-28, 31, 33, 35, 39-45, 47, 50, 52, 54, 56 and 58-64 is/are rejected.
- 7) ☒ Claim(s) 25, 29, 30, 32, 34, 36-38, 46, 48, 49, 51, 53, 55 and 57 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Applicants provisionally elect with traverse, group 1, which comprises claims 20-64 is acknowledged .

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 20, 22-24, 27-28, 39, 43-45; 58, 40-41 and 58-64 are rejected under 35 U.S.C. 102(e) as being anticipated by Hurst (US6,763,067).

Hurst discloses a rate control for bitstream re-encoding comprising the same method for altering transform coefficients associated with macroblocks in a frame having a frame size and a target reduction ratio (col. 4, ln. 45-49), the method comprising: identifying a number of input bits and a number of output bits associated with a set of processed macroblocks, the processed macroblocks having altered transform coefficients (col. 1, ln. 45-48, col. 4, ln. 31-44); generating an updated reduction ratio using the number of input bits and the number of output bits associated with the set of processed macroblocks (col. 4, ln. 49-55; and altering transform coefficients of a next macroblock using the updated reduction ratio to allow attainment of a target reduction ratio (fig. 1, col. 4, ln. 1-55 and col. 19, ln. 30-63) as specified in

claims 20, 39 and 58; wherein the updated reduction ratio is calculated to achieve the target reduction ratio after the third block (after the first two macroblocks are re-encoded, then the ration can be calculated and therefore, it is the examiner's opinion that after the first two macroblock, Hurst can achieve the target reduction ratio for subsequent macroblocks) as specified in claims 22-24, 43-45; wherein the updated reduction ratio is greater than the target reduction ratio when the number of output bits associated with the processed macroblocks divided by the number of input bits associated with the processed macroblocks is less than the target reduction ratio; and wherein the updated reduction ratio is less than the target reduction ratio when the number of output bits associated with the processed macroblocks divided by the number of input bits associated with the processed macroblocks is greater than the target reduction ratio (inherently included in the definition of desired rate ratio of the output bit rate to the input bit rate) as specified in claims 27-28, 40-41 and wherein identifying the first block of transform coefficients comprises performing variable length decoding on the input bits; wherein identifying the first block of transform coefficients comprises acquiring the transform coefficients from a file; wherein identifying the first block of transform coefficients comprises performing a DCT operation on video data; wherein identifying the first block of transform coefficients comprises performing a DCT operation on audio data; the first block of transform coefficients is a block of DCT coefficients; input bits identify a frame of MPEG encoded video (col. 2, ln. 44-52, col. 4, ln. 28-37, col. 5, ln. 43 – col. 6, ln. 24 and col. 1, ln. 25-37) as specified in claims 59-64.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 21, 26, 31, 33, 35, 42, 47, 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst (US 6,763,067).

As applied to claim 20 above, it is noted that Hurst does not particularly disclose:

- a. the updated reduction ratio is calculated using a convergence factor associated with overshoot to allow for faster convergence as specified in claims 21, 42; wherein the update reduction ratio is calculated using a spreading factor as specified in claims 31, 50; wherein the updated reduction ratio is calculated using a convergence factor as specified in claims 33, 52; wherein the updated reduction ratio is calculated using a first compensation factor as specified in claims 35, 54, 56.
- b. the compensation factor is determined using the updated reduction ratio and the picture type as specified in claims 26, 47;

**With regard to a:** Hurst further disclose that the target bit rate may vary over time based on other factor (col. 10, ln. 61-63) and therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to adjust input and/or the output bits and that any adjusting factor is broadly considered as convergence factor or a spreading factor or a convergence factor or a first compensation factor. Doing so would help to achieve the desired bit rate.

Art Unit: 2613

**With regard to b:** Hurst further teaches that the complexity of picture coding types needs to be also considered (col. 1, ln. 38-44). Therefore, it would have been obvious that to meet the desired ratio, any adjusting factor must include the consideration of intra coding pictures since these pictures are used for further decoded other pictures.

***Allowable Subject Matter***

6. Claims 25, 29-30, 32, 34, 36-38, 46, 48-49, 51, 53, 55 and 57 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Lee (US 6,763,070) discloses a method and apparatus for selecting a cut-off index.

b. Lee et al (US 6,665,346) discloses a loop-filtering method for image data and apparatus.

c. Sethuraman et al (US 6,263,021) disclose a method for treating non-zero quantized transformed coefficients.

d. Oguz et al (US 6,771,703) discloses an efficient scaling of non-scalable video.

e. Vetro et al (US 6,671,322) discloses a video transcoder with spatial resolution reduction.

f. Kato (US 6,535,556) discloses an apparatus and method for encoding images.

g. Nishikawa et al (US 6,442,207) discloses an image coded data re-encoding apparatus.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhon T Diep whose telephone number is 703-305-4648. The examiner can normally be reached on m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S Kelley can be reached on 703 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ND  
12 Nov 2004



NHON DIEP  
PRIMARY EXAMINER